IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(Currently Amended) A position determining system for determining a position of a rotor of a rotating motor ~~(M)~~, said system comprising:

sensing means ~~(HS1, HS2)~~ coupled to the rotor for generating in response to a rotation of the rotor a quadrature signal ~~(QS)~~ comprising a sine component ~~(VH1)~~ and a cosine component ~~(VH2)~~, and

calculating means ~~(CU)~~ for calculating

(i) a sum (A^2) of a squared value of the sine component ($A^2\sin^2x$) and a squared value of the cosine component ($A^2\cos^2x$),

(ii) an amplitude correction factor (A) as the squared root of the sum (A^2), ~~and~~

(iii) an amplitude corrected sine component (sin(x)) as the sine component (Asin(x)) divided by the amplitude correction

factor (A) and an amplitude corrected cosine component (cos(x)) as the cosine component (Acos(x)) divided by the amplitude correction factor (A), and

(iv) an output sum of an inverse sine value of the amplitude corrected sine component (sin(x)) and an inverse cosine value of the amplitude corrected cosine component (cos(x)), and

output means for outputting the output sum for determining the position of the rotor.

2. (Currently Amended) A position determining method for determining a position of a rotor of a rotating motor ~~(M)~~, said method comprising:

generating ~~(HS1, HS2)~~ in response to a rotation of the rotor a quadrature signal ~~(QS)~~ comprising a sine component ~~(VH1)~~ and a cosine component ~~(VH2)~~, ~~and~~

calculating ~~(CU)~~

(i) a sum (A^2) of a squared value of the sine component ($A^2\sin^2x$) and a squared value of the cosine component ($A^2\cos^2x$),

(ii) an amplitude correction factor (A) as the squared root of the sum (A^2), and

(iii) an amplitude corrected sine component (sin(x)) as the sine component (Asin(x)) divided by the amplitude correction factor (A) and an amplitude corrected cosine component (cos(x)) as the cosine component (Acos(x)) divided by the amplitude correction factor (A), and

(iv) an output sum of an inverse sine value of the amplitude corrected sine component (sin(x)) and an inverse cosine value of the amplitude corrected cosine component (cos(x)), and

output means for outputting the output sum for determining the position of the rotor r.

Claim 3 (Canceled)

4. (Currently Amended) ~~A~~ The position determining method as claimed in ~~claim 3~~ claim 1, wherein the calculating ~~(CU)~~ further comprises

weighting ~~(10, 14)~~ the inverse sine value ~~(IS)~~ with a weighting factor ~~(WF1)~~ for favoring the inverse sine value ~~(IS)~~ around its zero crossings to obtain a weighted sine value ~~(WS)~~, and

weighting ~~(10, 14)~~ the inverse cosine value ~~(IC)~~ with a

weighting factor ~~(WF2)~~ for favoring the inverse cosine value ~~(IS)~~ around its zero crossings, to obtain a weighted cosine value ~~(WC)~~,

wherein the calculating of the sum ~~(16)~~ is performed on the weighted sine value (WS) and the weighted cosine value ~~(WC)~~.

5. (Currently Amended) An optical or magnetic drive comprising

a pick-up unit ~~(OPU)~~ for reading and/or writing information from/to an optical or magnetic medium,

a rotating motor ~~(M) with~~ having a rotor,

a gearbox ~~(AX, DM)~~ for converting a rotating movement of the rotor into a linear movement of optical pick-up unit ~~(OPU)~~, and

a position determining system for determining a position of the rotor, said system comprising

sensing means ~~(HS1, HS2)~~ coupled to the rotor for generating in response to a rotation of the rotor a quadrature signal ~~(QS)~~ comprising a sine component ~~(VH1)~~ and a cosine component ~~(VH2)~~, ~~and~~

calculating means ~~(CU)~~ for calculating

(i) a sum (A^2) of a squared value of the sine component ($A^2\sin^2 x$) and a squared value of the cosine component ($A^2\cos^2 x$),

(ii) an amplitude correction factor (A) as the squared

root of the sum (A^2), and

(iii) an amplitude corrected sine component (sin(x)) as the sine component (Asin(x)) divided by the amplitude correction factor (A) and an amplitude corrected cosine component (cos(x)) as the cosine component (Acos(x)) divided by the amplitude correction factor (A), and

(iv) an output sum of an inverse sine value of the amplitude corrected sine component (sin(x)) and an inverse cosine value of the amplitude corrected cosine component (cos(x)), and

output means for outputting the output sum for determining the position of the rotor.